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BRIEF19

A daily review of covid-19 research and policy

RESEARCH BRIEFING

Vaccination outperforms prior infection in protecting against reinfection, travel data shows.

Circumstantial evidence has suggested that vaccination might provide more protection against SARS-CoV-2 than a prior infection. Most of the data supporting this notion has come from laboratory data findings which have shown higher antibody levels among vaccine recipients than among people who previously had “natural infection” and recovered. Higher antibody levels strongly imply better protection against a future covid-19 illness, but they are not direct evidence of that claim.

[New data](#) in *JAMA* leveraged a universal coronavirus testing procedure implemented in Qatar’s international airport. All travelers arriving to that nation’s international airport were tested for coronavirus and asked whether they had been vaccinated (with Pfizer/BioNtech or Moderna), had previously contracted and recovered from covid-19, or neither.

Every time the screeners found a person who had been vaccinated or who had recovered from covid-19, they sought out to find another person who had not but who had similar age and nationality characteristics. In this way, the researchers created pairs of similar subjects whose outcomes could then be compared. Among hundreds of thousands of travelers, the researchers were able to find tens of thousands of individuals to include in the study. They then compared the rates of a positive coronavirus test (i.e. reinfections) among the three groups of people upon arrival in Qatar.

Among unvaccinated persons with no previous known infection, around 3.7-3.8 percent of arriving travelers tested positive for an active or recent infection. Meanwhile, 0.8 percent of vaccinated persons and 1 percent of previously infection persons tested positive on arrival. (Of note, for those with prior infections, reinfection was defined only if the positive test was more than 90 days after the initial covid-19 illness). The researchers did not report the severity of the illnesses, nor the contagion (as adjudicated either by tests that specifically look for contagious viral particles, or genetic testing data that indirectly implies contagion by way of detecting very high viral loads). So, it’s possible, and even likely, that the few active infections among vaccinated and recovered people were far less contagious than the cases among the previously unexposed and unvaccinated group. Adding “rapid antigen tests” to this protocol would be welcome, as it would provide answers to that question.

These data support vaccination as a superior strategy over natural infection, as well as the wisdom of requiring testing for anyone who has not yet been vaccinated.

—*Jeremy Samuel Faust, MD MS*

POLICY BRIEFING

The immovable object for herd immunity.

As we have covered extensively in *Brief19*, one of the cornerstones of ending the pandemic is the hard-to-define “herd immunity.” While there is no specific ironclad number, the concept refers to reaching a point where a sufficient number of individuals are vaccinated (or have ample antibodies from prior infection) that the virus does not have a sustainable pool of susceptible individuals in which to replicate and spread.

Against a myriad of obstacles, the US federal government threw [everything](#) at this problem to encourage vaccine uptake. Despite these efforts, however, even a few months into the

vaccination program, experts were [concerned](#) about slowing rates of administration and resolute holdouts. These concerns appear to be [validated](#) by a new Gallup poll that shows seventy-eight percent of the unvaccinated population is unlikely to ever change their minds.

Fortunately, initial steps have been [taken](#) to address such a contingency, with long-term mitigation strategies involving seasonal vaccination and persistent social distancing strategies in hotspots that may emerge. The frustrating truth is that this does not have to be our reality. The vaccine-hesitant need only to embrace the scientific evidence and do the right thing. One way to achieve this is for leaders in certain communities to speak up in favor of vaccination and the freedoms that accompany inoculation. We note that as of last week, of the 12 states with more than 70 percent of the adult population vaccinated, all 12 of them were majority states for President Biden. *Various*

—*Brief19 Policy Team*

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